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Submission 2

Commentary on a United Church of Canada Ethical Lens for Viewing the Problem of Nuclear Wastes

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Commentary on a United Church of Canada Ethical Lens for Viewing the Problem of Nuclear Wastes

An Integration and Commentary on:

One Earth Community – Ethical Principles for Environment and Development, a policy statement adopted by the General Council of The United Church of Canada, August 1992

and

The Earth Charter – prepared by the Earth Council and endorsed by the General Council of The United Church of Canada, August 2003

The “ethical lens” used by the United Church of Canada in preparing our submissions for the Nuclear Waste Management Organisation (NWMO) is based in the 12 principles adopted in August 1992 by the United Church’s General Council in the statement *One Earth Community – Ethical Principles for Environment and Development*. The preparation and adoption by the Church of this policy statement was stimulated in part by the secular and inter-faith discussions leading up to the Rio Earth Summit (June 1992) about a possible Earth Charter. Since then, an *Earth Charter* has indeed been prepared through a wide-ranging engagement of civil society groups around the world and was endorsed by the United Church of Canada’s General Council in August 2003.

Policy statements are adopted within the United Church of Canada through a democratic process. Congregations appoint representatives to Presbyteries, which make up regional Conferences from which delegates are appointed to meetings of the General Council. At General Councils, policy proposals are considered as they have been submitted by congregations, presbyteries and conferences and from national committees. The policy proposals are debated and voted upon.

In this presentation, each of the *One Earth Community* principles (in bold, **OEC**) is followed by principles from the *Earth Charter* (in italics, *EC*), which we find to be related and then both are commented upon in the context of our present focus on ecological and energy issues, specifically nuclear power and nuclear wastes. For ease of reference, the *Earth Charter* is presented in the Appendix.

The United Church of Canada makes this submission in the hope that this material will further the discussion on ethical and social considerations and help to build a substantive framework of ethical principles for viewing the problem of nuclear wastes. The United Church submissions to the NWMO have been mandated and endorsed by the Justice, Peace and Creation Advisory Group of the Justice, Global and Ecumenical Relations Unit within the General Council of the United Church of Canada. The principle writers of the material are Shirley Farlinger, Bob K. Fillier, Lisa Gue, David Hallman and Mary Lou

Harley. There is a diversity of views in society and in the Church about these issues and the perspectives reflected in the commentary portion of this submission will not be shared by all United Church of Canada members. The commentary is faithful to current United Church policy (i.e. UCC 1996 and UCC 2000) which identifies many concerns about nuclear power and the resulting wastes.

Consideration of the nuclear waste problem's broader context leads us to conclude that any ethical approach to managing this problem must be concerned also with containing the size of the problem that is to be managed. It follows for the United Church that policies designed to promote the extension or expansion of nuclear power in Canada are incompatible with an ethical approach to nuclear waste management. Unfortunately, given current energy policies in Canada, we cannot at this time assume the ethically necessary condition of a finite waste stream. Therefore, this commentary, while focused on considerations relevant to managing Canada's projected nuclear waste from existing plants, takes into account the related and unresolved issue of the future of nuclear energy in Canada. In keeping with this ethical framework, we have included issues related to the broader issue of nuclear energy in Canada as it is unethical to discuss these interrelated issues in isolation of the matrix that creates them.

1. Human societies must bear a responsibility toward the Earth in its wholeness.

(OEC 1)

A. Respect Earth and life in all its diversity

i) Recognise that all beings are interdependent and every form of life has value regardless of its worth to human beings. (EC 1.a)

ii) Affirm faith in the inherent dignity of all human beings and in the intellectual, artistic, ethical, and spiritual potential of humanity. (EC1.b)

B. Care for the community of life with understanding, compassion, and love

i) Accept that with the right to own, manage, and use natural resources comes the duty to prevent environmental harm and to protect the rights of people. (EC 2.a)

ii) Affirm that with increased freedom, knowledge, and power comes increased responsibility to promote the common good. (EC 2.b)

For far too long the Western society, in part due to its anthropocentrism and partly due to its need for control, has regarded the earth as a substance to be manipulated and transformed in light of the needs of humanity. Specifically, what has become labelled as a “need” is everything that contributes to the current power struggle for dominance within the human species, particularly that of men over women; rich over poor; and first world over two-thirds. Slowly, we are learning to rethink these patterns in recognition of the interdependent relationship that exists between the earth and the multitude of species that call this planet home. As we have revisited historical biblical and theological concepts, we have come to the conclusion that human beings do not have unfettered dominion¹ over the earth, in the classical understanding of this concept, but rather exist in a co-creative symbiotic relationship.

As such, any decision that people make regarding the long-term containment of high level nuclear waste cannot be taken in isolation. It is not satisfactory to look at these management options in isolation from the broader context of energy generation and the propagation of nuclear energy in Canada. To claim that a “management plan” has been formulated and put in place without having an open and transparent public debate over the future of nuclear energy in Canada is irresponsible. Any discussion of management options must take into account the totality of the earth’s ecosystems, not just the localized biodiversity of any proposed sites. If climate change studies over the last fifty years have

¹ Dominion over the earth is a classical theological and sociological concept used to differentiate the placement of human beings within the created order of the world. While it has taken various forms, it is best personified in the hierarchical structuring of organisms from the simplest, thus lowest, to the most complex, thus highest. In this ordering human beings placed homo sapiens at the top, thus giving them control over nature and the lower organisms. Dominion, then, became a means of labelling and talking about the ways in which the highest animal, homo sapiens, had the inherent right to manipulate the natural environment towards its own needs. Theologically this concept is rooted in Genesis 1:26. It has various other manifestations in the sacred narrative, but this remains the strongest. The United Church contends that this vertical orienting of nature has broken the sacred trust given to humanity by YHWH. It has broken the sense of interrelationship and interdependence between all aspects of creation. And, it has led to an ideology and a theology that sees creation as under the control and manipulation of human beings. In no small way, this mode of thought has led us to the ecological crises we face today around the globe.

taught us nothing else, it has proclaimed loud and clear that what people do in their perceived isolated realities affects all of Creation.²

Because Canada claims the right to develop its natural resources and exports material and technologies, specifically related to nuclear power in this case, Canada has the responsibility to ensure that the ecosystems of this country and the world are protected from any harm by these activities or by their long-term consequences. It is not enough to minimize the risk of ecological harm/disaster. It must be prevented. In keeping with this principal we have examined the proposals through the lens of how they protect people and ecosystems; not just individuals, but societies, cultures, and life-styles. These issues must be carefully weighed and balanced in favour of the most powerless in society, given the propensity for economic gain to sway the minds and collective mentalities of populations. At the same time, this principal leads to another that necessitates that with increased power and freedom comes a greater responsibility towards the common good. All nuclear waste management options should be evaluated to ascertain their ability to promote the common good concerning possible management sites, the surrounding ecology, the societies which will have to live “next-door,” and the subsequent impact on the global community.

2. To be both people-oriented and ecologically sound, all development strategies must be founded on a just international economic order, with priority for the world’s poor. (OEC 2)

A. Build democratic societies that are just, participatory, sustainable, and peaceful.

i) Ensure that communities at all levels guarantee human rights and fundamental freedoms and provide everyone an opportunity to realize his or her full potential. (EC 3.a)

ii) Promote social and economic justice, enabling all to achieve a secure and meaningful livelihood that is ecologically responsible. (EC 3.b)

B. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity.

i) Secure the human right of women and girls and end all violence against them. (EC 11.a)

² Creation, in this document, is meant to refer to more than the biodiversity of planet earth. It is a concept that includes within it the understanding that everything created exists in a matrix of relationship that extends beyond the conscious and subconscious levels of the human brain and into the Divine. Creation is not a substance, or simply an amalgamation of organic and inorganic material into a reality that exists in a state of equilibrium. Rather, Creation is a living breathing organism, engaged in an intimate relationship with God, which, as an organism, is constantly in the state of evolutionary flux. It follows then, that the term Creation is imbued with concepts that the world (everything that is created) is sacred space. Time, in all of its manifestations, is sacred time and because of the intrinsic interpersonal relationship between God and Creation, the world is a sacred trust. Creation is thus the Holy of Holies, it is the place where God becomes visible, it is the place where God is encountered, it is the sum total of all being, and it is that which lives within the cosmic harmonic of the creative energy of God.

ii) Promote the active participation of women in all aspects of economic, political, civil, social, and cultural life as full and equal partners, decision-makers, leaders and beneficiaries. (EC 11.b)

iii) Strengthen families and ensure the safety and loving nature of all family members. (EC 11.c)

C. Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities.

i) Eliminate discrimination in all its forms, such as that based on race, colour, sex, sexual orientation, religion, language, and national, ethnic or social origin. (EC 12.a)

ii) Affirm the right of indigenous peoples to their spirituality, knowledge, lands, resources and to their related practice of sustainable livelihoods. (EC 12.b)

iii) Honour and support the young people of our communities, enabling them to fulfill their essential role in creating sustainable societies. (EC 12.c)

iv) Protect and restore outstanding places of cultural and spiritual significance. (EC 12.d)

Large and powerful economic interests always play a role in the development of public policy. Our ethic insists that in order for any development scenario, and in one sense any management option is a development scenario, to be appropriate it must be people-oriented and ecologically sound. That is to say that the rights and privileges of the “least” in society and nature must be given the greatest voice. Any such development, at the implementation phase, must guarantee that it will promote the well-being and the strengthening of communal life and that of the individual with particular attention to that of women, children, and aboriginal peoples. It is not enough to say that all development is good. In order for that to be the case, it must be based on a just international economic order, promote the participation of the “least” in society, and help end discrimination. One example of this principle’s application is in relation to the continued building and marketing of CANDU reactors. How can Canada claim that it supports the Jubilee³ initiatives of forgiveness of national debt and the creating of right relationship among all countries, when it is intentionally saddling those same countries with the burden of nuclear waste management? For the CANDU reactors already exported to developing countries, there is the risk that the inability of these countries to pay the cost of proper nuclear waste management or have access to suitable sites may result in environmental and human catastrophe. How Canada is to exercise our responsibility for the safe management of the nuclear waste from export sales of CANDU reactors has not been openly stated or debated in public but the management for Canadian nuclear fuel waste should not be addressed in isolation from the waste management requirements of CANDU-client countries. To live in right relationship, to seek a just international economic order, AECL cannot simply walk away from the waste that is an

³ See “Trust” and “Future of Nuclear Energy” in *United Church of Canada General Comments on Nuclear Wastes and the Work of NWMO* (UCC 2004).

inevitable bi-product of CANDU technology presently in client countries nor can Canada continue to export this technology.

At the same time, this component of our ethic insists that any management option must be compatible with a natural and social environment supportive of human dignity, bodily health, and spiritual well-being. Any such assertion must take into account the limit of scientific knowledge, while also providing for the ability to alter the course of the management option. Flexibility must be built into the option and assured for the duration of time needed in order to assure that these high level nuclear wastes are no longer a threat to the sum of Creation. Participation by all those affected must also be built into the decision making and siting phase. It is not enough to ask the public, informed or otherwise, to help make a decision on Canada's nuclear waste management, potential sites must also be disclosed and affected parties guaranteed access to the process of decision-making. It is important to recognise that, while this principle raises the issue of development strategies to the level of consciousness, it does so, not from the self-interest level of management, contractors, the nuclear industry, or any of the levels of government, but from the level of those whose voices are most often silenced in our bureaucracy: women, children, and aboriginal peoples. Any option must assure that these voices are heard and afforded the respect and legitimacy they deserve.

3. Life styles of high material consumption must yield to the provision of greater sufficiency for all. (OEC 3)

- A. *Eradicate poverty as an ethical, social, and environmental imperative.*
 - i) *Guarantee the right to potable water, clean air, food security, uncontaminated soil, shelter, and safe sanitation, allocating the national and international resources required. (EC 9.a)*
 - ii) *Empower every human being with the education and resources to secure a sustainable livelihood, and provide social security and safety nets for those who are unable to support themselves. (EC 9.b)*
 - iii) *Recognize the ignored, protect the vulnerable, serve those who suffer, and enable them to develop their capacities and to pursue their aspirations. (EC 9.c)*

The nuclear waste issue is directly related to the demand for electrical power. The need for limits to the demand for electrical power and a just sharing of resources in the interests of sustainable sufficiency for all are highlighted in this ethical principle. A meaningful response to this ethic would require a new energy program based on energy efficiency, energy conservation, use of energy from renewable resources used in a sustainable manner, and safe, environmentally clean processes. Therefore, this ethical principle clearly necessitates an examination of how Canadians consume electricity and an evaluation of the environmental impacts and the full financial costs of our energy options. The nuclear fuel waste problem is in fact a symptom of larger energy policy and consumption problems. The issues of nuclear waste cannot realistically be addressed in isolation and the government's attempt to do so through the *Nuclear Fuel Waste Act* is a major flaw in the current NWMO process.

4. Environmental destruction must stop and humanity must understand itself collectively responsible both for the destruction and for the repair thereof. (OEC 4)

A. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.

i) Support international scientific and technical co-operation on sustainability with special attention to the needs of developing nations.

(EC 8.a)

ii) Recognize and preserve the traditional knowledge and spiritual wisdom in all cultures that contribute to environmental protection and human well-being. (EC 8.b)

iii) Ensure that information of vital importance to human health and environmental protection, including genetic information, remains available in the public domain. (EC 8.c)

Our world has reached its limit in regards to human environmental destruction. The effects on air, water and soil are measurable; planet Earth is groaning from abuse. Any nuclear waste management approach must be evaluated in terms of its effects on the planet and on the prospects for ecological sustainability. The question thus becomes: will it exacerbate environmental destruction, or will it help heal the Earth?

We need to take ownership of our responsibility for damaging the planet. This guiding ethical principle mandates that any nuclear waste management proposal not exacerbate environmental damage but help to heal the Earth. Also, the information gathered regarding the treatment of high-level nuclear waste should be shared openly. Additionally, resources should be provided to ensure continued research into sustainable, renewable energy alternatives.

Information regarding the costs and wastes associated with nuclear power must be made publicly accessible now. The public must be permitted to critique and evaluate this energy source and then decide an appropriate course of action for dealing with the extremely toxic and radioactive wastes it produces. For waste management, information on its location, characteristics, possible health and environmental affects, etc. will need to continue to be accessible over the very long term.

5. The rights of future generations must be protected. (OEC 5)

A. Secure Earth's bounty and beauty for present and future generations.

i) Recognize that the freedom of action of each generation is qualified by the needs of future generations. (EC 4.a)

ii) Transmit to future generations values, traditions, and institutions that support the long-term flourishing of Earth's human and ecological communities. (EC 4.b)

While we acknowledge that Canada has a huge responsibility and obligation to manage the nuclear waste it has produced to date, we must balance this reality with our responsibility to future generations. Any management approach that limits future generations' ability to address issues of hazard related to our nuclear wastes - issues that we cannot even imagine given the time span and the current state of our technological

and scientific knowledge - is not an option. Furthermore, any approved management approach must have within it the ability to transmit to future generations the knowledge about the history of these wastes and the nature of their hazard, as well as wisdom, values, and institutions necessary to deal, not only with the system in place, but with unforeseen eventualities.

In a similar spirit, this directive draws our attention to the other species who inhabit this planet and have equal rights to life. Human society has often forgotten, or chosen to ignore, the fact that people are animals and that, like us, all animals have basic needs and deserve to have the ability to meet those needs. Any nuclear waste management option must ensure protection of the right of animals and plants to continue without interference on a large scale by humans.

6. The carrying capacity of the Earth, regionally and globally, must become a criterion in assessing economic development. (OEC 6)

A. Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.

- i) Reduce, reuse, recycle the materials used in production and consumption systems, and ensure that residual waste can be assimilated by ecological systems. (EC 7.a)*
- ii) Act with restraint and efficiency when using energy, and rely increasingly on renewable energy sources such as solar and wind. (EC 7.b)*
- iii) Promote the development, adoption, and equitable transfer of environmentally sound technologies. (EC 7.c)*
- iv) Internalize the full environmental and social costs of goods and services in the selling price and enable consumers to identify products that meet the highest social and environmental standards. (EC 7.d)*
- v) Ensure universal access to health care that fosters reproductive health and responsible reproduction. (EC 7.e)*
- vi) Adopt lifestyles that emphasize the quality of life and material sufficiency in a finite world. (EC 7.f)*

The environmental concept of recycling has been twisted with respect to nuclear wastes and used to describe processing and partition approaches that create dangerous wastes and acute nuclear weapon proliferation issues. The environmental three "R's" are a hierarchy, with "reduce" at the top and this principle requires a nuclear waste management approach that limits the amount of waste that can be produced. This can only happen if Canada discusses the broader issues of energy generation in general and nuclear energy in particular. To limit the scale of the nuclear waste problem, a moratorium should be instituted on the expansion of existing facilities and the establishment of new nuclear facilities or uranium mines, such moratorium to extend to the disruption of radioactive deposits and the export of nuclear power technology and materials.

Additionally, Canada needs to support research on the rapid reduction of the radiation hazard of nuclear waste, in a manner that does not add to the proliferation risk (i.e. focus on seeking a means to safely jog excess neutrons, alpha particle and beta particle from unstable nuclei in an absorbing environment when these nuclei are in a nuclear fuel waste mix of radioactive nuclei of other isotopes and other elements).

Canadians must become more aware of the carrying capacity of the Earth as a life-giving system. Again, this points to the need to re-evaluate our energy habits. At this juncture, our provincial and federal governments should shift their focus from subsidizing and otherwise enabling nuclear power (and other polluting energy sources) to encouraging the rapid deployment of energy efficiency technologies and clean energy alternatives. Conservation must also be part of the new energy mix. Only on this basis can we begin to 'solve' the nuclear waste problem.

7. The bio-diversity of the Earth must be respected and protected. (OEC 7)

A. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and natural processes that sustain life.

i) Adopt at all levels sustainable development plans and regulations that make environmental conservation and rehabilitation integral to all development initiatives. (EC 5.a)

ii) Establish and safeguard viable nature and biosphere reserves, including wild lands and marine areas, to protect Earth's life support systems, maintain biodiversity, and preserve our natural heritage. (EC 5.b)

iii) Promote the recovery of endangered species and ecosystems. (EC 5.c)

iv) Control and eradicate non-native genetically modified organisms harmful to native species and the environment, and prevent introduction of such harmful organisms. (EC 5.d)

v) Manage the use of renewable resources such as water, soil, forest products, and marine life in ways that do not exceed rates of regeneration and that protect the health of ecosystems. (EC 5.e)

vi) Manage the extraction and use of non-renewable resources such as minerals and fossil fuels in ways that minimize depletion and cause no serious environmental damage. (EC 5.f)

B. Treat all living beings with respect and consideration.

i) Prevent cruelty to animals kept in human societies and protect them from suffering. (EC 15.a)

ii) Protect wild animals from methods of hunting, trapping, and fishing that cause extreme, prolonged, or avoidable suffering. (EC 15.b)

iii) Avoid or eliminate to the full extent possible the taking or destruction of non-targeted species. (EC 15.c)

This principle calls attention to fundamental issues of protection of wildlife, of wilderness habitat, of areas of high biodiversity and of areas of high biological production when assessing options for managing nuclear fuel waste. The long-term hazards of nuclear waste, the inadequacy of modelling, and the uncertainties require that we acknowledge the limitations of our science and technology and adopt a precautionary

approach. Also, there are no standards at this time specific to the purpose of protecting non-human biota, and protection of human health is not necessarily sufficient to protect the natural environment. In determining acceptability of any given nuclear waste management plan, it is fundamental to understand what are our values with respect to individuals, human and non-humans, and what are our values with respect to communities, human, non-human and the interdependent Earth community. These issues need to be part of the present public debate.

Canada can no longer afford to make decisions that have a detrimental environmental impact. Any decision made regarding nuclear waste must be linked to the broader and greater issues of sustainability. There are serious questions regarding the safety, environmental impacts and acceptability of the nuclear fuel waste proposals being considered by NWMO. The eventual acceptance and implementation of a management approach must be based on a comprehensive environmental impact assessment that assures the health and sustainability of the bio-community.

8. Militarism must yield to non-violent approaches to conflict resolution. (OEC 8)

A. Promote a culture of tolerance, non-violence, and peace

- i) Encourage and support mutual understanding, solidarity, and cooperation among all peoples and within and among nations. (EC 16.a)*
- ii) Implement comprehensive strategies to prevent violent conflict and use collaborative problem solving to manage and resolve environmental conflicts and other disputes. (EC 16.b)*
- iii) Demilitarize national security systems to the level of a non-provocative defence posture, and convert military resources to peaceful purposes, including ecological restoration. (EC 16.c)*
- iv) Eliminate nuclear, biological, and toxic weapons and other weapons of mass destruction. (EC 16.d)*
- v) Recognize that peace is the wholeness created by right relationship with oneself, other persons, other cultures, other life, Earth, and the large whole of which all are a part. (EC 16.f)*

Canada has another broader issue facing it in regards to nuclear waste: global partners. Not only has Canadian technology produced vast quantities of high level nuclear waste within this country, it has done so around the world. Part of Canada's own management option must also take into account the waste it has produced in other countries and take steps to be accountable for it as well.

This directive is meant to address the broader role that Canada has to play on the world stage and one it could increasingly play, if it became a leader in nuclear waste research and stewardship and then, based on the principles listed above, shared that knowledge with other countries. Unfortunately, nuclear energy, even in its so-called "peaceful" guise, has contributed to militarism across the globe. Our approach to nuclear fuel waste management must not risk exacerbating this trend. In our interconnected world, nuclear power with the waste it generates is, in this sense, not only a Canadian issue; it's a global

one. Our decisions should promote peace and security, and the hope for a world free from nuclear weapons.

9. Decision-making for just and ecologically-sound development must ensure the participation of individuals and groups, especially those most affected by the project. (OEC 9)

A. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision-making, and access to justice.

- i) Uphold the right of everyone to receive clear and timely information on environmental matters and all development plans and activities which are likely to affect them or in which they have an interest. (EC 13.a)*
- ii) Support local, regional and global civil society, and promote the meaningful participation of all interested individuals and organizations in decision-making. (EC 13.b)*
- iii) Protect the rights and freedoms of opinion, expression, peaceful assembly, association, and dissent. (EC 13.c)*
- iv) Institute effective and efficient access to administrative and independent judicial procedures, including remedies and redress for environmental harm and the threat of such harm. (EC 13.d)*
- v) Eliminate corruption in all public and private institutions. (EC 13.e)*
- vi) Strengthen local communities, enabling them to care for their environments, and assign environmental responsibilities to the levels of government where they can be carried out most effectively. (EC 13.f)*

As part of any process of consultation, the public must be engaged in tangible and concrete mechanisms that solidify and promote the democratic process. The fact that the nuclear industry has control of the recommendation on the nuclear waste management option and the Minister responsible for CANDU exports has control of the final decision in the present process raises concerns. The NWMO consultation process with postings on the internet, polls, public meetings and other engagement activities cannot be seen as a *replacement* for open parliamentary debate on this issue. Both meaningful public consultation and parliamentary debate are needed to break through the shroud of mistrust and the dark shadow that surrounds Canada's nuclear industry so that this decision-making process becomes open to public scrutiny and responds to public input.

In public consultation, all voices are to be provided with an opportunity to participate. Workers must be protected by whistle-blower legislation and minority reports within government, the nuclear industry and the NWMO must become part of the public record. Funding must be in place to ensure that those who wish to participate can do so. In particular, communities and peoples affected by nuclear facilities and other energy-related mining, production or waste projects should have the opportunity and intervenor assistance to allow for full and meaningful participation in decision-making regarding those projects.

10. Both opportunities for learning and access to knowledge must be assured in order to facilitate sustainable development. (OEC 10)

A. Integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life.

i) Provide all, especially children and youth, with educational opportunities that empower them to contribute actively to sustainable development. (EC 14.a)

ii) Promote the contribution of the arts and humanities as well as the sciences in sustainable education. (EC 14.b)

iii) Enhance the role of the mass media in raising awareness of ecological and social challenges. (EC 14.c)

iv) Recognize the importance of moral and spiritual education for sustainable living. (EC 14.d)

It is important to recognize that the issue of nuclear waste is not going away and that nuclear issues need to become a component of the educational system, while being transparent and open to new developments from that participation. Such approaches should learn from past mistakes where educational information on nuclear power was presented as uncritical promotion of this energy source without acknowledging, for instance, the serious waste problems from the nuclear fuel cycle and the nature of the hazard. It is time that we face the realities of nuclear energy and the harm it causes. It is not “clean” energy and it has extremely serious risks associated with it for people and Creation alike.

This is not the case of simply assuring funding for universities and laboratories. It is about raising this issue to the level of civic discourse in order to allow a more democratic decision-making process and, once a decision has been taken, to ensure that the considerations that have been part of this process are not forgotten. It also needs to be understood that public access to knowledge involves openness and transparency and pointing out that NWMO is not, but should be, subject to the Access to Information Act and open for scrutiny by the Auditor General.

Likewise this directive calls to mind the need for continued research beyond that which is economically profitable and into areas of the greater common good. If this directive was followed closely, the nuclear industry would have to provide some funding for finding ways of decreasing the risk of the waste it has produced, not as a way of recovering costs associated with demand and production, but as a response to its participation in the greater good of society.

11. Development decisions must emphasize prevention of ecological damage. (OEC 11)

A. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach.

- i) Take action to avoid the possibility of serious or irreversible environmental harm even when scientific knowledge is incomplete or inconclusive. (EC 6.a)*
- ii) Place the burden of proof on those who argue that a proposed activity will not cause significant harm, and make the responsible parties liable for environmental harm. (EC 6.b)*
- iii) Ensure that decision-making addresses the cumulative, long-term, indirect, long distance, and global consequences of human activities. (EC 6.c)*
- iv) Prevent pollution of any part of the environment and allow no build-up of radioactive, toxic, or other hazardous substances. (EC 6.d)*
- v) Avoid military activities damaging to the environment. (EC 6.e)*

This directive asserts that any option for the long-term management of nuclear waste must not pose any serious environmental harm and that the burden of proof for such a claim lies squarely on those who propose it. This is a difficult issue for the NWMO to address given the mandate provided by the federal government and the proximity of the nuclear industry to its final recommendations. Further, at some point during this process the NWMO will be moving from its present public consultation role to the role of proponent. The issue of trust will play a critical part. Consequently, any proposal must carefully, deliberately, and transparently present how it will ensure that there will be no ecological damage resulting from its implementation.

For any nuclear waste management proposal, an adequate basis of information to permit independent evaluation is essential, an accepted process of environmental impact assessment must be carried out and an open process to evaluate the findings and come to decisions must follow. Ethically responsible decision-making must not be sacrificed to an artificial timetable; the greater good must not be lost for the profit of a select few. The precautionary principle has implications for the continued production of nuclear fuel waste, given persistent uncertainties about the long-term ability of any nuclear waste management approach to ensure safety and protect the environment. It is time to make decisions regarding nuclear waste based upon what is good for Creation. It is time to make decisions regarding continued nuclear waste production as well as its management. We see the continued build up of nuclear waste to be both ecologically intolerable and ethically bankrupt.

12. Procedures and mechanisms must be established ensuring a transnational approach to environmental issues and disputes. (OEC 12)

A. Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner.

- i) Promote the equitable distribution of wealth within nations and among nations. (EC 10.a)*
- ii) Enhance the intellectual, financial, technical, and social resources of developing nations, and relieve them of onerous international debt. (EC 10.b)*

iii) Ensure that all trade supports sustainable resource use, environmental protection, and progressive labour standards. (EC 10.c)

iv) Require multinational corporations and international financial organizations to act transparently in the public good, and hold them accountable for the consequences of their activities. (EC 10.d)

It is time that Canada re-examine the direction it is taking regarding the export of CANDU technology and the wider and deeper sociological and ecological responsibilities that are our burden because of decisions that have been made in the past. It is time for Canadians to decide if it is appropriate, let alone ethical, to continue to be involved in the sale and construction of CANDU reactors given the problems associated with the waste they (and all nuclear reactors) produce.

Issues related to energy generation and nuclear waste management must be addressed within a wider framework, to take into account the global impact of Canadian actions. As the number of cash-strapped countries producing nuclear wastes has grown, there is potential pressure for international standards to compromise what is practicable, in order to allow all countries to conform to the measures of control. The need has increased for Canada to play a prominent role in developing and promoting high standards for safety and security in the management of radioactive wastes. However, Canada has not addressed our responsibility to client countries for the management of nuclear wastes. What may be proposed for Canada for nuclear waste management may not be a workable approach in other geo-cultural contexts, which is of particular concern for the wastes from CANDU reactors which could add new and very dangerous stresses in often volatile global situations. The framework in which nuclear waste management options are being considered must incorporate the global context and seek to anticipate unintended consequences. No decision is implemented in isolation, and Canada must ensure that it is acting ethically both at home and as a member of the global community.

Compliance with international trade agreements should not be given precedence over compliance with international environmental agreements or prevent Canada from adopting measures to reorient its energy policy.”

REFERENCES

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APPENDIX

The Earth Charter

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PREAMBLE

We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.

Earth, Our Home Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of life. The forces of nature make existence a demanding and uncertain adventure, but Earth has provided the conditions essential to life's evolution. The resilience of the community of life and the well-being of humanity depend upon preserving a healthy biosphere with all its ecological systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air. The global environment with its finite resources is a common concern of all peoples. The protection of Earth's vitality, diversity, and beauty is a sacred trust.

The Global Situation The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems. The foundations of global security are threatened. These trends are perilous—but not inevitable.

The Challenges Ahead The choice is ours: form a global partnership to care for Earth and one another or risk the destruction of ourselves and the diversity of life. Fundamental changes are needed in our values, institutions, and ways of living. We must realize that when basic needs have been met, human development is primarily about being more, not having more. We have the knowledge and technology to provide for all and to reduce our impacts on the environment. The emergence of a global civil society is creating new opportunities to build a democratic and humane world. Our environmental, economic, political, social, and spiritual challenges are interconnected, and together we can forge inclusive solutions.

Universal Responsibility To realize these aspirations, we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities. We are at once citizens of different nations and of one world in which the local and global are linked. Everyone shares responsibility for the present and future well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature.

We urgently need a shared vision of basic values to provide an ethical foundation for the emerging world community. Therefore, together in hope we affirm the following interdependent principles for a sustainable way of life as a common standard by which the conduct of all individuals, organizations, businesses, governments, and transnational institutions is to be guided and assessed.

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PRINCIPLES

I. RESPECT AND CARE FOR THE COMMUNITY OF LIFE

1. Respect Earth and life in all its diversity.

- a. Recognize that all beings are interdependent and every form of life has value regardless of its worth to human beings.
- b. Affirm faith in the inherent dignity of all human beings and in the intellectual, artistic, ethical, and spiritual potential of humanity.

2. Care for the community of life with understanding, compassion, and love.

- a. Accept that with the right to own, manage, and use natural resources comes the duty to prevent environmental harm and to protect the rights of people.
- b. Affirm that with increased freedom, knowledge, and power comes increased responsibility to promote the common good.

3. Build democratic societies that are just, participatory, sustainable, and peaceful.

- a. Ensure that communities at all levels guarantee human rights and fundamental freedoms and provide everyone an opportunity to realize his or her full potential.
- b. Promote social and economic justice, enabling all to achieve a secure and meaningful livelihood that is ecologically responsible.

4. Secure Earth's bounty and beauty for present and future generations.

- a. Recognize that the freedom of action of each generation is qualified by the needs of future generations.
- b. Transmit to future generations values, traditions, and institutions that support the long-term flourishing of Earth's human and ecological communities.

In order to fulfill these four broad commitments, it is necessary to:

II. ECOLOGICAL INTEGRITY

5. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life.

- a. Adopt at all levels sustainable development plans and regulations that make environmental conservation and rehabilitation integral to all development initiatives.
- b. Establish and safeguard viable nature and biosphere reserves, including wild lands and marine areas, to protect Earth's life support systems, maintain biodiversity, and preserve our natural heritage.
- c. Promote the recovery of endangered species and ecosystems.
- d. Control and eradicate non-native or genetically modified organisms harmful to native species and the environment, and prevent introduction of such harmful organisms.
- e. Manage the use of renewable resources such as water, soil, forest products, and marine life in ways that do not exceed rates of regeneration and that protect the health of ecosystems.
- f. Manage the extraction and use of non-renewable resources such as minerals and fossil fuels in ways that minimize depletion and cause no serious environmental damage.

6. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach.

- a. Take action to avoid the possibility of serious or irreversible environmental harm even when scientific knowledge is incomplete or inconclusive.
- b. Place the burden of proof on those who argue that a proposed activity will not cause significant harm, and make the responsible parties liable for environmental harm.
- c. Ensure that decision making addresses the cumulative, long-term, indirect, long distance, and global consequences of human activities.
- d. Prevent pollution of any part of the environment and allow no build-up of radioactive, toxic, or other hazardous substances.
- e. Avoid military activities damaging to the environment.

7. Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.

- a. Reduce, reuse, and recycle the materials used in production and consumption systems, and ensure that residual waste can be assimilated by ecological systems.
- b. Act with restraint and efficiency when using energy, and rely increasingly on renewable energy sources such as solar and wind.
- c. Promote the development, adoption, and equitable transfer of environmentally sound technologies.
- d. Internalize the full environmental and social costs of goods and services in the selling price, and enable consumers to identify products that meet the highest social and environmental standards.
- e. Ensure universal access to health care that fosters reproductive health and responsible reproduction.
- f. Adopt lifestyles that emphasize the quality of life and material sufficiency in a finite world.

8. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.

- a. Support international scientific and technical cooperation on sustainability, with special attention to the needs of developing nations.
- b. Recognize and preserve the traditional knowledge and spiritual wisdom in all cultures that contribute to environmental protection and human well-being.
- c. Ensure that information of vital importance to human health and environmental protection, including genetic information, remains available in the public domain.

III. SOCIAL AND ECONOMIC JUSTICE

9. Eradicate poverty as an ethical, social, and environmental imperative.

- a. Guarantee the right to potable water, clean air, food security, uncontaminated soil, shelter, and safe sanitation, allocating the national and international resources required.
- b. Empower every human being with the education and resources to secure a sustainable livelihood, and provide social security and safety nets for those who are unable to support themselves.
- c. Recognize the ignored, protect the vulnerable, serve those who suffer, and enable them to develop their capacities and to pursue their aspirations.

10. Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner.

- a. Promote the equitable distribution of wealth within nations and among nations.
- b. Enhance the intellectual, financial, technical, and social resources of developing nations, and relieve them of onerous international debt.

- c. Ensure that all trade supports sustainable resource use, environmental protection, and progressive labor standards.
- d. Require multinational corporations and international financial organizations to act transparently in the public good, and hold them accountable for the consequences of their activities.

11. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity.

- a. Secure the human rights of women and girls and end all violence against them.
- b. Promote the active participation of women in all aspects of economic, political, civil, social, and cultural life as full and equal partners, decision makers, leaders, and beneficiaries.
- c. Strengthen families and ensure the safety and loving nurture of all family members.

12. Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities.

- a. Eliminate discrimination in all its forms, such as that based on race, color, sex, sexual orientation, religion, language, and national, ethnic or social origin.
- b. Affirm the right of indigenous peoples to their spirituality, knowledge, lands and resources and to their related practice of sustainable livelihoods.
- c. Honor and support the young people of our communities, enabling them to fulfill their essential role in creating sustainable societies.
- d. Protect and restore outstanding places of cultural and spiritual significance.

IV. DEMOCRACY, NONVIOLENCE, AND PEACE

13. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice.

- a. Uphold the right of everyone to receive clear and timely information on environmental matters and all development plans and activities which are likely to affect them or in which they have an interest.
- b. Support local, regional and global civil society, and promote the meaningful participation of all interested individuals and organizations in decision making.
- c. Protect the rights to freedom of opinion, expression, peaceful assembly, association, and dissent.
- d. Institute effective and efficient access to administrative and independent judicial procedures, including remedies and redress for environmental harm and the threat of such harm.
- e. Eliminate corruption in all public and private institutions.
- f. Strengthen local communities, enabling them to care for their environments, and assign environmental responsibilities to the levels of government where they can be carried out most effectively.

14. Integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life.

- a. Provide all, especially children and youth, with educational opportunities that empower them to contribute actively to sustainable development.
- b. Promote the contribution of the arts and humanities as well as the sciences in sustainability education.
- c. Enhance the role of the mass media in raising awareness of ecological and social challenges.
- d. Recognize the importance of moral and spiritual education for sustainable living.

15. Treat all living beings with respect and consideration.

- a. Prevent cruelty to animals kept in human societies and protect them from suffering.
- b. Protect wild animals from methods of hunting, trapping, and fishing that cause extreme, prolonged, or avoidable suffering.
- c. Avoid or eliminate to the full extent possible the taking or destruction of non-targeted species.

16. Promote a culture of tolerance, nonviolence, and peace.

- a. Encourage and support mutual understanding, solidarity, and cooperation among all peoples and within and among nations.
- b. Implement comprehensive strategies to prevent violent conflict and use collaborative problem solving to manage and resolve environmental conflicts and other disputes.
- c. Demilitarize national security systems to the level of a non-provocative defense posture, and convert military resources to peaceful purposes, including ecological restoration.
- d. Eliminate nuclear, biological, and toxic weapons and other weapons of mass destruction.
- e. Ensure that the use of orbital and outer space supports environmental protection and peace.
- f. Recognize that peace is the wholeness created by right relationships with oneself, other persons, other cultures, other life, Earth, and the larger whole of which all are a part.

THE WAY FORWARD

As never before in history, common destiny beckons us to seek a new beginning. Such renewal is the promise of these Earth Charter principles. To fulfill this promise, we must commit ourselves to adopt and promote the values and objectives of the Charter. This requires a change of mind and heart. It requires a new sense of global interdependence and universal responsibility. We must imaginatively develop and apply the vision of a sustainable way of life locally, nationally, regionally, and globally. Our cultural diversity is a precious heritage and different cultures will find their own distinctive ways to realize the vision. We must deepen and expand the global dialogue that generated the Earth Charter, for we have much to learn from the ongoing collaborative search for truth and wisdom. Life often involves tensions between important values. This can mean difficult choices. However, we must find ways to harmonize diversity with unity, the exercise of freedom with the common good, short-term objectives with long-term goals. Every individual, family, organization, and community has a vital role to play. The arts, sciences, religions, educational institutions, media, businesses, nongovernmental organizations, and governments are all called to offer creative leadership. The partnership of government, civil society, and business is essential for effective governance. In order to build a sustainable global community, the nations of the world must renew their commitment to the United Nations, fulfill their obligations under existing

international agreements, and support the implementation of Earth Charter principles with an international legally binding instrument on environment and development. Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life.